

# **Re-usable fish boxes - status from some European countries**

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# Introduction

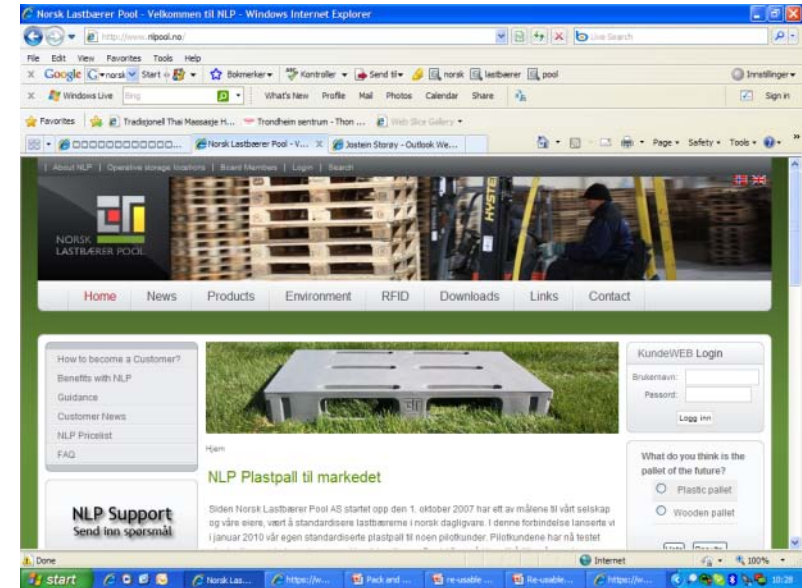
- Most normal to use polystyrene boxes which are destroyed after use. Especially when fish are exported and boxes do not get back to producer.
- Re-usable boxes now introduced. Hard plastic (high density polyethylene)
- Insulation: Polystyrene boxes have better insulation. This can be a problem for re-usable boxes in warm countries.
  - If you have refrigerated trucks with good air distribution hard plastic boxes can be a good alternative.
- Re-usable boxes can live up to 7 years
- Draining /non-draining boxes. Often needs absorbent in box, or use of gel ice.

# Introduction

- The logistic system – the biggest challenge !!!
  - Needs to be washed
  - Needs to be returned to producers
  - Applicable to within a company
  - Applicable to use within a city or region
  - Applicable in countries with little import/export (e.g. Japan)
- Boxes are expensive and you need a system where boxes are rented out and you get a deposit when box are returned
- To keep track of boxes and later also content of boxes  
RFID tags are no attached to fish boxes and tested

# Norway

- Use of re-usable boxes in following industries;
  - Meat
  - Fruit
  - Vegetables
- Norwegian Pallet Pool rent out pallets, both wooden and plastic (deposit system)
- To keep track of pallets it now exist plans to put RFID tags on all pallets



# Sweden and Iceland

- Swedish board of fisheries has started a larger pilot where 3000 small reusable boxes will be tagged and read in commercial situations.
- They will use EPCIS as the information standard.
- Iceland uses reusable tubs (600 l) for many types of fisheries, but no commercial use of RFID.

# European continent

- France : Re-usable fish box from company Albertine
  - Stackable boxes, only 1/3 of size when stacked empty
- Spain – re-usable boxes, regional logistic system
- Germany also use of re-usable plastic boxes
- No common European standard

# Denmark

- Long experience with use of 20 kg reusable fish boxes
- Development been going on for several years for introduction of integrated RFID tags
- First was RFID tags moulded in. Problem!
- Now are RFID tags glued on. It seems to work well!
- 200.000 boxes in use in Denmark

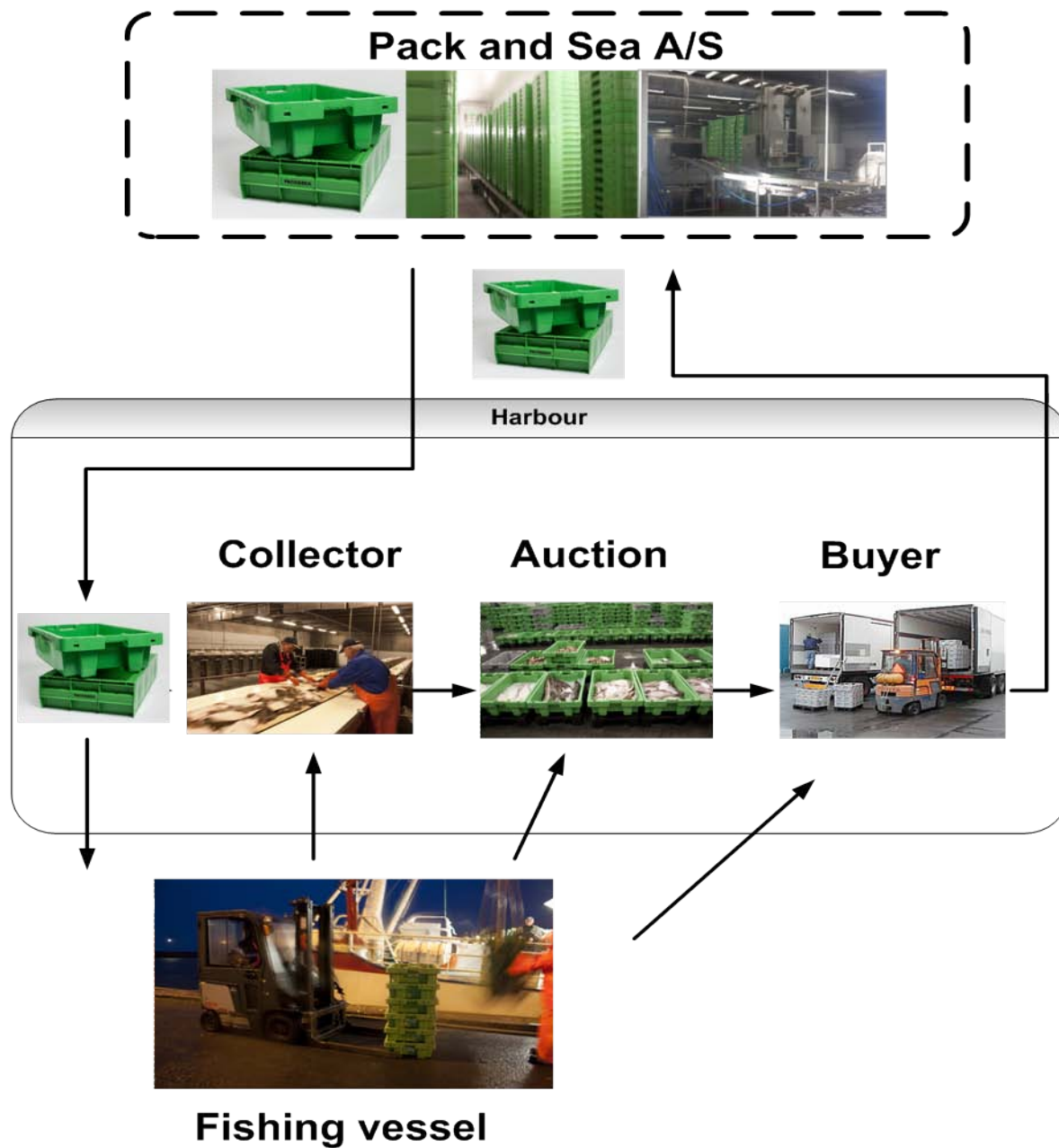


# Denmark

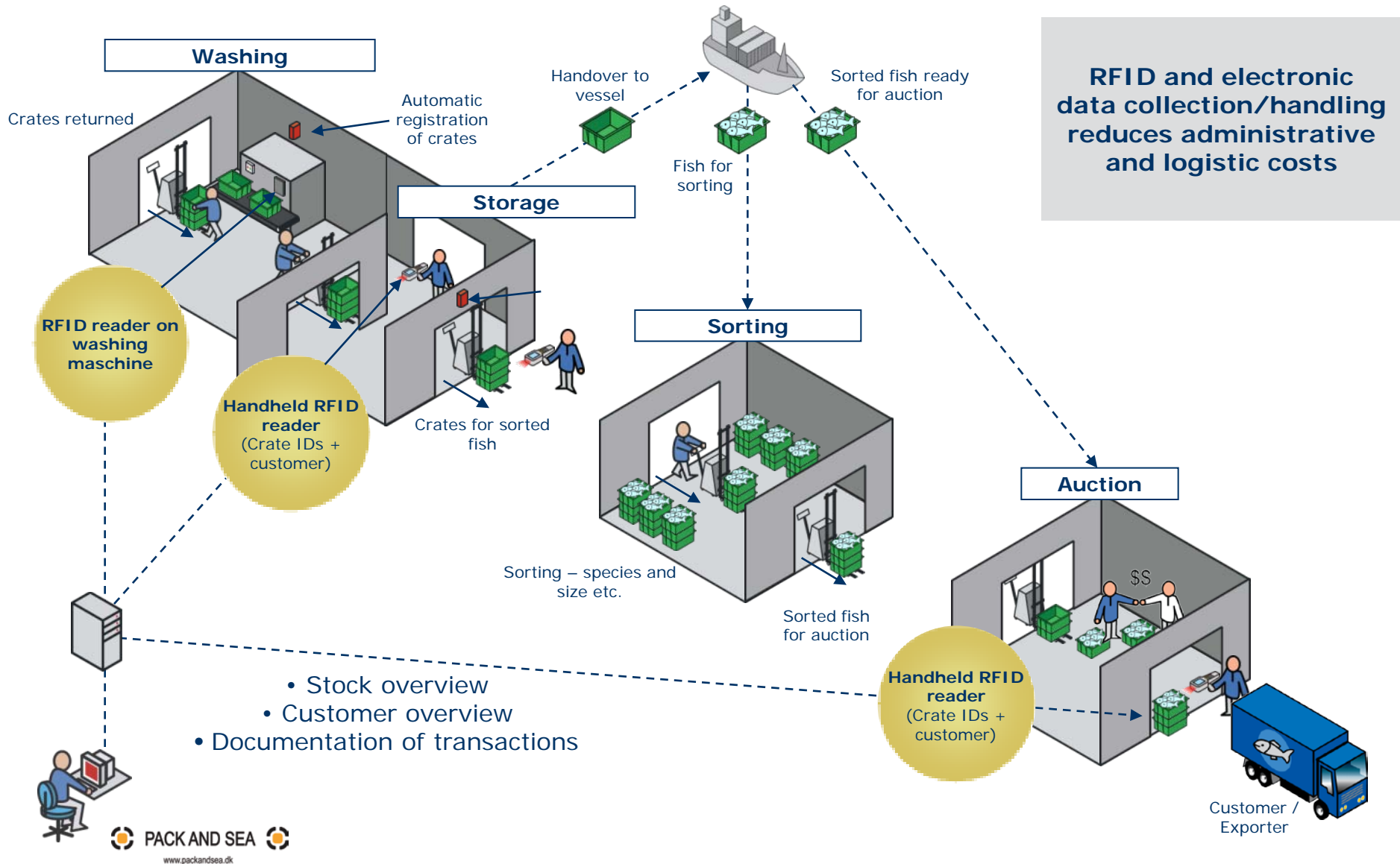
- Cooperation between 3 companies:
- 1. Company “Pack and sea” are owner of the fish boxes
  - Takes care of logistic and washing. Deposit system.
- 2. Company “Lyngsøe Systems” delivers software to operate system
- 3. Company Marel – produces scales
  
- Still only used in Denmark, but plan is to use in whole Europe. Again the logistic system and return of boxes will be the large challenge!!!



# Denmark



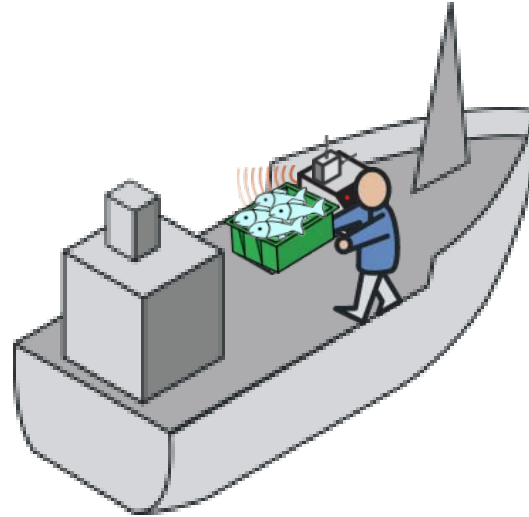
# Fish crate flow and RFID registrations



# Traceability System – linking of product information to the RFID !!!

RFID Equipment on the harbours

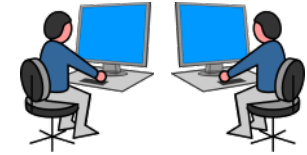
- Collector
- Sorting
- Auction



Support



AM users

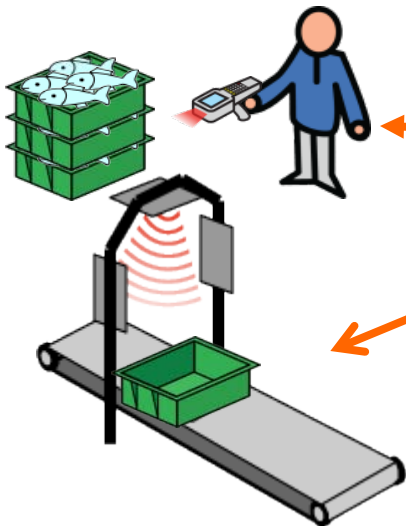


WWW

Pack and Sea  
ERP / CRM



Lyngsoe Asset Management System



# Conclusion

- There is no box that is ideally suited to all possible circumstances of fish distribution.
- The different characteristics of each box make them suitable for a particular usage, user and market.
- In choosing a suitable box, the factors such as box insulation, strength, cost and whether fluid loss in the distribution system is allowed have to be considered.
- Re-usable boxes with integrated RFID tags gives good opportunity for tracking of boxes and traceability of fish